ROTATABLE BAY WINDOW SWITCH BOX SURVEILLANCE CAMERA

AND ILLUMINATOR FOR FACIAL RECOGNITION

CLAIMS

I claim:

1. A rotatable bay window switch box surveillance camera and illuminator system

suited for facial recognition comprising:

a) a partially rotatable bay window frame mounted within a switch box;

b) a surveillance device mounted within the frame;

c) a bay window cover plate;

in which the bay window frame can be pivoted back and forth to orient the

surveillance device toward an entrance to a room in which the switch box is

mounted and then locked in the selected position by engagement of the bay

window cover plate with the bay window frame front during attachment of the bay

window cover plate to the switch box.

2. The rotatable bay window switch box surveillance camera and illuminator system of Claim 1, in which the switch box is a standard electrical switch box adapted for mounting adjacent to an electrical light switch at an entrance to a room at a typical chest height location for users of the room, and the bay window cover plate resembles a decor motion detector switch cover and conceals the surveillance device.

3. The rotatable bay window switch box surveillance camera and illuminator system of Claim 1, in which the surveillance device is a camera.

4. The rotatable bay window switch box surveillance camera and illuminator system of Claim 1, in which the surveillance device is an illuminator.

5. The rotatable bay window switch box surveillance camera and illuminator system of Claim 1, in which the surveillance device is a camera and illuminator, the camera is mounted in a camera compartment of the bay window frame, the illuminator is mounted in a illuminator compartment of the partially rotatable bay window frame, and both camera and illuminator can be pivoted back and forth

with the frame prior to locking in position, for illumination of a scene at which the camera is pointed.

6. The rotatable bay window switch box surveillance camera and illuminator system of Claim 5, in which the camera compartment is separated from the illuminator compartment by a floor that seals light from the illuminator compartment from entering directly to the camera compartment, the light being directed out a pane of the bay window cover plate for reflection from the scene and return to the camera for imaging of the scene.

7. The rotatable bay window switch box surveillance camera and illuminator system of Claim 1, in which the surveillance device is integrated with a video processing system having facial recognition software, which can analyze various features of a face of a person under surveillance and match them with known features of identified people to the point of identification of a person entering the room.

8. The rotatable bay window switch box surveillance camera and illuminator system of Claim 1, in which the surveillance device is integrated with a video processing system having facial recognition software, which can analyze various

features of a face of a person under surveillance and categorize them in a database

for later comparisons or elimination of suspects having similar or different facial

characteristics to or than those recorded.

9. The rotatable bay window switch box surveillance camera and illuminator

system of Claim 1, in which the surveillance camera is integrated with a video

processing system that causes sequential shuttering variations by the surveillance

device in order to capture a variety of exposures of the light information from a

face, together with software that discards the less informative exposures and

proceeds with more informative exposures.

10. The rotatable bay window switch box surveillance camera and illuminator of

Claim 1, in which the surveillance device is integrated with a video processing

system which has the surveillance device take a series of normal exposures,

overexposures, and underexposures by varying a camera's shutter speed or

opening, to accommodate unpredictable effects of varying ambient light together

with light from an illuminator on faces or other objects sought to be recognized.

11. The rotatable bay window switch box surveillance camera and illuminator of

Claim 10, in which the surveillance camera is integrated with a video processing

system having facial recognition software, which gives feedback to increase the variation in exposure if facial recognition is poor and to decrease the variation in exposure if facial recognition is good.

12. The rotatable bay window switch box surveillance camera and illuminator of Claim 2, in which:

a) the surveillance device is a camera and illuminator, the camera is mounted in a camera compartment of the bay window frame, the illuminator is mounted in a illuminator compartment of the partially rotatable bay window frame, and both camera and illuminator can be pivoted back and forth with the frame prior to locking in position, for illumination of a scene at which the camera is pointed;

b) the camera compartment is separated from the illuminator compartment by a floor that seals light from the illuminator compartment from entering directly to the camera compartment, the light being directed out a pane of the bay window cover plate for reflection from the scene and return to the camera for imaging of the scene;

c) the surveillance device is integrated with a video processing system having

facial recognition software, which can analyze various features of a face of a person under surveillance;

d) the surveillance camera is integrated with a video processing system that causes sequential shuttering variations by the surveillance device in order to capture a variety of exposures of the light information from the face, together with software that discards the less informative exposures and proceeds with more informative exposures;

e) the video processing system has the surveillance device take a series of normal exposures, overexposures, and underexposures by varying the surveillance camera's shutter speed or opening, to accommodate unpredictable effects of varying ambient light together with light from the illuminator on faces or other objects sought to be recognized;

f) the video processing system has facial recognition software, which gives feedback to increase the variation in exposure if facial recognition is poor and to decrease the variation in exposure if facial recognition is good.